DESCRIPTION

**Data Processing Device Capable of Performing Data Transmission
in a Predetermined Access Method**

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Technical Field

The present invention relates a data processing device, a data processing program and a record medium storing a data processing program, and particularly relates to a data processing device, a data processing program and a record medium

10 storing a data processing program for performing data transmission.

Background Art

In a conventional system formed of a plurality of client devices and a processing device such as a server that is connected to the client devices directly or over a network such as a Local Area Network (LAN), the client devices are used for entering required

15 data and instructing execution of processing, and the processing device executes processing of relatively large loads as well as processing to be managed in a centralized fashion.

In this system, input forms corresponding to the processing device are generally distributed to the client devices. The client device displays a user interface described in

20 the input form, and required data is entered according to the user interface. Data for transmission is created according to data production rules described in the input form, and is transmitted from the client device to the processing device according to a destination and a transmission method described in the input form.

Thus, the processing device in the conventional system distributes the input form

25 that describes the user interface for data entry, a data structure and the data transmission method to the client devices, and this is performed for the purpose of receiving the data that is required for executing the processing and has a predefined data structure by the processing device from the client device in the predefined transmission method. The

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Disclosure of the Invention

Problems to be Solved by the Invention

In the above system, however, the data structure expected in each processing device may be different from those of the other processing devices even when the entered data does not differ between them. Therefore, the item information input method disclosed in the patent reference 1 cannot deal with the above case where a difference is present between data structures transmitted to the processing devices, respectively.

In this case, each client device generally obtains the input forms prepared for the respective processing devices. A user must perform the data entry operation on each of the input forms prepared for the respective processing devices, resulting in a problem of complicated operations.

When the processing devices defines different data transmission methods, respectively, this likewise results in a problem that different operations are required for the input forms of the respective processing devices.

The invention has been made in view of the above problems, and it is an object of the invention to provide a data processing device, <u>a data processing program and a record medium storing a data processing program</u> that can transmit data in a predetermined access method without performing complicated operations when data is to be transmitted to an other data processing device on a system for processing by the other data processing device.

Means for Solving the Problems

For achieving the above object, a data processing device according to an aspect of the invention includes <u>a data structure information obtaining unit obtaining data structure information including information defining a data structure of data to be transmitted to an other device; a user interface description data obtaining unit obtaining user interface description data for collecting data by a user's operation for creating the data to be transmitted to the other device;</u> an access information obtaining unit obtaining

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access information <u>defining at least one of a method of transmitting the data to the other</u> <u>device and a destination; a user interface processing unit processing the obtained user</u> <u>interface description data to output a user interface; a storing unit storing the data</u> <u>obtained from the user interface provided from the user interface processing unit as a</u>

5   <u>value of an attribute name included in the user interface;</u> and a transmission data processing unit <u>determining a matching relationship between the attribute name included</u> <u>in the data structure information and the attribute name included in the user interface</u> <u>description data, handling the data obtained based on the user interface description data</u> <u>as an attribute value, creating</u> the data to be transmitted to the other device <u>by replacing</u>

10   <u>a corresponding unit in the data structure information with the attribute value and</u> <u>transmitting</u> the created data based on the access information.

~~According to another aspect of the invention, a data processing method includes~~ ~~a data obtaining step of obtaining data from a storage device; an access information~~ ~~obtaining step of obtaining access information for transmitting data to an other device;~~

15   ~~and a transmission data processing step of creating the data to be transmitted to the~~ ~~other device and transmitting based on the access information and the data obtained~~ ~~from the storage device.~~

According <u>to another</u> aspect of the invention, a data processing <u>program for</u> causing a computer to execute a data <u>processing for</u> transmitting data to an other device,

20   causing the computer to execute: <u>a data structure information obtaining step of</u> <u>obtaining data structure information including information defining a data structure of</u> <u>the data to be transmitted to the other device; a user interface description data obtaining</u> <u>step of obtaining user interface description data for collecting data by a user's operation</u> <u>for creating the data to be transmitted to the other device;</u> an access information

25   obtaining step of obtaining access information <u>defining at least one of a method of</u> <u>transmitting the data to the other device and a destination; a user interface processing</u> <u>step of processing the user interface description data to output the user interface; a</u> <u>storing step of storing the data obtained from the user interface provided from the user</u>

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interface processing unit as a value of an attribute name included in the user interface in a storing unit; and a transmission data processing step of determining a matching relationship between the attribute name included in the data structure information and the attribute name included in the user interface description data, handling the data

5   obtained based on the user interface description data as an attribute value, creating the data to be transmitted to the other device by replacing a corresponding unit in the data structure information with the attribute value and transmitting the created data based on the access information.

According to still another aspect of the invention, a record medium is a

10   computer-readable record medium, and stores the above data transmission program.

Brief Description of the Drawings

Fig. 1 shows a specific example of a structure of a data communications system according to an embodiment.

Fig. 2 shows a specific example of a hardware structure of a cellular phone 1

15   forming a client device 1.

Fig. 3 illustrates a specific example of structures of respective programs stored in a storing unit 130 of cellular phone 1.

Fig. 4 is a flowchart illustrating processing of an input form data in cellular phone 1.

20   Fig. 5 is a flowchart illustrating processing corresponding to events in step S18.

Fig. 6 is a flowchart illustrating transmission data write-out processing in step S24.

Fig. 7 illustrates a specific example of UI description data.

Fig. 8 shows a specific example of a user interface.

25   Fig. 9 illustrates a specific example of transmission data processing description

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CLAIMS

1.   (Amended) A data processing device comprising:

a data structure information obtaining unit (1311) obtaining data structure

5   information including information defining a data structure of data to be transmitted to

an other device;

a user interface description data obtaining unit (1311) obtaining user interface

description data for collecting data by a user's operation for creating data to be

transmitted to said other device;

10   an access information obtaining unit (1311) obtaining access information

defining at least one of a method of transmitting data to said other device and a

destination;

a user interface processing unit (1312) processing said user interface description

data to output a user interface;

15   a storing unit (130) storing the data obtained from said user interface output

from said user interface processing unit as a value of an attribute name included in said

user interface; and

a transmission data processing unit (1314) determining a matching relationship

between said attribute name included in said data structure information and the attribute

20   name included in said user interface description data, handling said data obtained based

on said user interface description data as an attribute value, creating the data to be

transmitted to said other device by replacing a corresponding unit in said data structure

information with said attribute value and transmitting said created data based on said

access information.

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2.   (Amended) The data processing device according to claim 1, wherein

said transmission data processing unit determines the matching relationship

between said attribute name included in said data structure information and said attribute

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name included in said user interface description data, saving said data obtained based on said user interface description data as a file, creating said data to be transmitted to said other device by handling the data as an attribute value and replacing a corresponding unit in said data structure information with said attribute value and transmitting said

5   created data to said other device.

3.   (Amended) The data processing device according to claim 1, wherein when said attribute name included in said data structure information and included in said user interface description data is a file, said transmission data processing unit

10   saves said data obtained based on said user interface description data as a file of said attribute name, thereby creates said data to be transmitted to said other device and transmits the created data.

4.   (Amended) The data processing device according to claim 1, wherein

15   said data structure information obtaining unit obtains said data structure information from an other device.

5.   (Amended) The data processing device according to claim 1, wherein said access information obtaining unit obtains said access information from an

20   other device.

6.   (Amended) The data processing device according to claim 1, wherein said user interface description data obtaining unit obtains said user interface description data from an other device.

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7.   (Amended) The data processing device according to claim 1, wherein said data structure information obtaining unit obtains a plurality of pieces of the data structure information, and

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said data processing device further comprises a data structure information selecting unit (1314) selecting predetermined data structure information to be used for transmitting the data to said other device from among said plurality of pieces of said data structure information.

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8.   (Amended) The data processing device according to claim 1, wherein said access information obtaining unit obtains a plurality of pieces of the access information, and

said data processing device further comprises an access information selecting

10   unit (1314) selecting predetermined access information to be used for transmitting data to said other device from among said plurality of pieces of the access information.

9.   (Amended) The data processing device according to claim 1, further comprising:

15   a transmission data selecting unit (1312, 1315) selecting predetermined data to be transmitted to said other device from among the plurality of pieces of the data stored in said storing unit.

10.   (Amended) The data processing device according to claim 9, wherein

20   the data stored in said storing unit includes data corresponding to each item, and said data stored in said storing unit includes data classified by items,

when a plurality of the data are corresponding to one of said items, said transmission data selecting unit exhibits, for each of said items corresponding to said plurality of the data, said plurality of the data corresponding to said item, and selects one

25   of said plurality of the data to be correlated to said item.

11.   (Amended) The data processing device according to claim 9, wherein the data stored in said storing unit is formed of a combination of the data pieces

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corresponding to the respective items, and

said data stored in said storing unit includes a combination having data classified by items,

when said storing unit stores a plurality of the combinations, said transmission data selecting unit exhibits the data for each of at least one of said items in the combination which is capable of identifying the combination, and selects one of said plurality of the combinations which is a predetermined data to be transmitted to said other device.

12.   (Added) The data processing device according to claim 1, wherein data stored in said storing unit is a history of inputs by a user.

13.   (Added) A data processing program for causing a computer to execute a data processing for transmitting data to an other device, causing the computer to execute:

a data structure information obtaining step (S11) of obtaining data structure information including information defining a data structure of data to be transmitted to said other device;

a user interface description data obtaining step (S11) of obtaining user interface description data for collecting data by a user's operation for creating the data to be transmitted to said other device;

an access information obtaining step (S13 - S15) of obtaining access information defining at least one of a method of transmitting data to said other device and a destination;

a user interface processing step (S16) of processing said user interface description data to output said user interface;

a storing step (S32) of storing data obtained from said user interface provided from said user interface processing unit as a value of an attribute name included in said

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user interface in a storing unit; and

a transmission data processing unit (S24, S25) of determining a matching relationship between the attribute name included in said data structure information and said attribute name included in said user interface description data, handling said data

5   obtained based on said user interface description data as an attribute value, creating the data to be transmitted to said other device by replacing a corresponding unit in said data structure information with said attribute value and transmitting the created data based on said access information.

10   14.   (Added) A computer-readable record medium storing the data processing program according to claim 13.